

Amendments to the Claims:

Please amend claims 1, 13 and 22, and add new claims 25 and 26, as set forth in the below listing of the claims. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for facilitating mass customization of an object, the object comprising a dental appliance, the method comprising:
generating a template representing data common to ~~the object~~ a plurality of different dental appliances, the template comprising a source spline;
generating specific data to customize ~~the object~~ an appliance in conjunction with the template, the specific data comprising a target spline; wherein the ~~specific data comprises source spline and the target spline define~~ at least one tool path; and
directing at least one tool along the at least one tool path to fabricate a customized version of the ~~object~~ appliance.
2. (Canceled).
3. (Previously presented) The method of claim 1, wherein the tool path is represented as a spline.
4. (Previously Presented) The method of claim 1, wherein the object has an ideal model surface, wherein generating the specific data comprises creating an idealized tool path from the ideal model surface.
5. (Previously Presented) The method of claim 4, further comprising generating a mathematically smooth 3D spline using the idealized tool path.

6. (Previously Presented) The method of claim 5, further comprising generating surface normals from the ideal model surface at points distributed around the idealized tool path.

7. (Previously Presented) The method of claim 6, further comprising displacing each surface normal from its end to a nearest point on the smooth 3D spline.

8. (Previously Presented) The method of claim 7, further comprising creating a spline connecting each unattached end of each surface normal.

9. (Original) The method of claim 8, wherein the ends are attached sequentially in a loop.

10. (Previously Presented) The method of claim 1, wherein directing the tool comprises using a source spline to define motion of the tool by defining tool orientation vectors.

11. (Previously Presented) The method of claim 10, further comprising adjusting the source spline.

12. (Previously Presented) The method of claim 11, wherein the source spline is adjusted by moderately elevating or lowering an angle of a surface normal.

13. (Currently Amended) A method for fabricating a customized object, the method comprising:

receiving a digital representation of a target path;

generating a mathematically smoothed version of the target path;

applying the smoothed target path to generate a secondary target path;

generating a streamlined tool path, based on the secondary target path; and

directing a tool along the tool path to fabricate the customized object, the customized object comprising a customized dental appliance having cavities shaped to receive and resiliently reposition a patient's teeth.

14. (Previously Presented) The method of claim 13, wherein the target path is represented as a spline.

15. (Previously Presented) The method of claim 13, wherein the object has an ideal model surface, further comprising creating an idealized tool path from the ideal model surface.

16. (Previously Presented) The method of claim 15, further comprising generating a mathematically smooth 3D spline using the idealized tool path.

17. (Previously Presented) The method of claim 16, further comprising generating surface normals from the ideal model surface at points distributed around the idealized tool path.

18. (Previously Presented) The method of claim 17, further comprising displacing each surface normal from its end to a nearest point on the smooth 3D spline.

19. (Previously Presented) The method of claim 18, further comprising creating a spline that connects each unattached end of each surface normal and wherein the ends are attached sequentially in a loop.

20. (Previously Presented) The method of claim 13, wherein directing the tool along the tool path comprises using a source spline to define motion of the tool by defining tool orientation vectors.

21. (Previously Presented) The method of claim 20, further comprising adjusting the source spline moderately elevating or lowering an angle of a surface normal.

22. (Currently Amended) A method for facilitating mass customization of an object, the object comprising an article of manufacture, the method comprising:

generating a template representing data common to ~~the object~~ a plurality of different objects, the template comprising a source spline;

extracting the common data from a calculation process used in object fabrication;
generating specific data to customize the object in conjunction with the template,
the specific data comprising a target spline; wherein ~~the specific data comprises~~ source spline
and the target spline define at least one tool path; and
directing at least one tool along the at least one tool path to fabricate a customized
version of the object.

23. (Previously presented) The method claim 22, wherein the calculation process is a CAM process.

24. (Previously presented) The method claim 22, wherein the object is an incremental tooth adjustment appliance.

25. (New) The method of claim 1, wherein the dental appliance comprises cavities shaped to receive and resiliently reposition a patient's teeth.

26. (New) The method of claim 22, wherein the article of manufacture comprises a dental appliance having cavities shaped to receive and resiliently reposition a patient's teeth.